

CLAIMS:

1. An electronic device workpiece processing apparatus
2 comprising:

3 a workpiece holder adapted to receive an electronic device
4 workpiece having an electrical coupling, the workpiece holder including
5 an electrical coupling configured to electrically couple with the electrical
6 coupling of the electronic device workpiece and communicate signals
7 between the electronic device workpiece and the workpiece holder.

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10 2. The electronic device workpiece processing apparatus
11 according to claim 1 further comprising a data gathering device coupled
12 with the electrical coupling of the workpiece holder and configured to
13 receive the signals.

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15 3. The electronic device workpiece processing apparatus
16 according to claim 2 further comprising a contact plate configured to
17 communicate the signal intermediate the workpiece holder and the data
18 gathering device.

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20 4. The electronic device workpiece processing apparatus
21 according to claim 1 wherein the workpiece holder includes a first
22 surface, a second surface, and an electrical interconnect configured to
23 electrically couple the first surface and the second surface.

1 5. The electronic device workpiece processing apparatus
2 according to claim 4 wherein the first surface of the workpiece holder
3 is configured to face a received electronic device workpiece and the
4 second surface is configured to face a chuck.

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6 6. The electronic device workpiece processing apparatus
7 according to claim 1 wherein the workpiece holder includes a plurality
8 of electrical couplings adapted to couple with a plurality of electrical
9 couplings of the electronic device workpiece.

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11 7. The electronic device workpiece processing apparatus
12 according to claim 1 wherein the workpiece holder comprises a chuck.

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14 8. The electronic device workpiece processing apparatus
15 according to claim 1 wherein the workpiece holder comprises a chuck
16 configured to receive a calibration workpiece and a production
17 workpiece.

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19 9. The electronic device workpiece processing apparatus
20 according to claim 8 wherein the workpiece holder and the calibration
21 workpiece include vacuum chambers adapted to receive a vacuum to
22 couple the calibration workpiece and the production workpiece with the
23 chuck.

1 10. The electronic device workpiece processing apparatus
2 according to claim 1 wherein the workpiece holder comprises an
3 intermediate member adapted to couple with a chuck.

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5 11. The electronic device workpiece processing apparatus
6 according to claim 1 wherein the workpiece holder includes a vacuum
7 chamber adapted to receive a vacuum to couple a received electronic
8 device workpiece with the workpiece holder.

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10 12. The electronic device workpiece processing apparatus
11 according to claim 1 wherein the electrical interconnect comprises a
12 conductive column configured to extend outward from plural surfaces of
13 the chuck.

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15 13. The electronic device workpiece processing apparatus
16 according to claim 12 further comprising a contact plate including
17 circuitry configured to provide electrical connection with the conductive
18 column.

1 14. An electronic device workpiece processing intermediate
2 member adapted to receive an electronic device workpiece having an
3 electrical coupling and couple with a chuck having an electrical coupling,
4 the intermediate member comprising:

5 an electrical interconnect configured to electrically connect the
6 electrical coupling of the electronic device workpiece with the electrical
7 coupling of the chuck.

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9 15. The electronic device workpiece processing intermediate
10 member according to claim 14 wherein the intermediate member includes
11 a plurality of electrical interconnects configured to electrically connect
12 a plurality of electrical couplings of an electronic device workpiece and
13 a chuck.

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15 16. The electronic device workpiece processing intermediate
16 member according to claim 14 wherein the electrical interconnect
17 comprises a pogo pin.

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19 17. The electronic device workpiece processing intermediate
20 member according to claim 14 wherein the electrical interconnect
21 comprises a wire.

1 18. An electronic device workpiece processing apparatus
2 comprising a workpiece holder adapted to receive an electronic device
3 workpiece and the workpiece holder having circuitry configured to
4 communicate a process signal received from a received electronic device
5 workpiece and the process signal containing information regarding
6 processing of the received electronic device workpiece.

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8 19. An electronic device workpiece processing apparatus
9 comprising:

10 a chuck including a surface, an electrical coupling adjacent the
11 surface, and electrical interconnect configured to connect with the
12 electrical coupling of the chuck and conduct a signal within the chuck;

13 an intermediate member having a first surface and a second
14 surface and the intermediate member including:

15 an electrical coupling adjacent the first surface and
16 configured to couple with the electrical coupling of the chuck;

17 an electrical coupling adjacent the second surface; and

18 an electrical interconnect configured to connect the electrical
19 coupling adjacent the first surface and the electrical coupling adjacent
20 the second surface; and

21 an electronic device workpiece configured to couple with the
22 second surface of the intermediate member, the electronic device
23 workpiece including a sensor and an electrical coupling configured to

1 provide electrical connection of the sensor with the electrical coupling
2 of the second surface of the intermediate member.

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4 20. The electronic device workpiece processing apparatus
5 according to claim 19 further comprising a data gathering device coupled
6 with the electrical coupling of the chuck and configured to receive the
7 signal.

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9 21. The electronic device workpiece processing apparatus
10 according to claim 20 further comprising a contact plate configured to
11 communicate the signal intermediate the chuck and the data gathering
12 device.

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14 22. The electronic device workpiece processing apparatus
15 according to claim 19 wherein the sensor comprises a resistance
16 temperature device.

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18 23. The electronic device workpiece processing apparatus
19 according to claim 19 wherein the electronic device workpiece comprises
20 a calibration workpiece.

1 24. The electronic device workpiece -processing apparatus
2 according to claim 19 wherein the electrical interconnect comprises a
3 conductive column configured to extend outward from plural surfaces of
4 the chuck.

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6 25. The electronic device workpiece processing apparatus
7 according to claim 24 further comprising a contact plate including
8 circuitry configured to provide electrical connection with electrical
9 couplings of the chuck.

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1 26. An electronic device workpiece processing apparatus
2 comprising:

3 a chuck including a surface, a plurality of electrical couplings
4 adjacent the surface, and a plurality of electrical interconnects configured
5 to connect with respective electrical couplings of the chuck and conduct
6 signals within the chuck;

7 an intermediate member having a first surface and a second
8 surface and the intermediate member including:

9 a plurality of electrical couplings adjacent the first surface
10 and configured to couple with respective electrical couplings of the
11 chuck;

12 a plurality of electrical couplings adjacent the second
13 surface; and

14 a plurality of electrical interconnects configured to electrically
15 connect the electrical couplings of the first surface with respective
16 electrical couplings of the second surface;

17 a calibration workpiece configured to couple with the second
18 surface of the intermediate member, the calibration workpiece including
19 a plurality of resistance temperature devices configured to generate
20 process signals, and a plurality of electrical connections configured to
21 electrically connect the resistance temperature devices with respective
22 electrical couplings of the second surface of the intermediate member;

23 and

1 a data gathering device coupled with the electrical interconnects
2 of the chuck and configured to receive the process signals from the
3 resistance temperature devices through the intermediate member and the
4 chuck.

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6 27. A method of communicating signals within an electronic
7 device workpiece processing apparatus, the method comprising:

8 providing a workpiece holder adapted to couple with an electronic
9 device workpiece; and

10 communicating signals through the workpiece holder.

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12 28. The method according to claim 27 further comprising
13 coupling circuitry of an electronic device workpiece with circuitry of the
14 workpiece holder.

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16 29. The method according to claim 28 further comprising
17 breaking the coupled circuitry of the electronic device workpiece and
18 the circuitry of the workpiece holder.

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20 30. The method according to claim 27 further comprising
21 coupling an electronic device workpiece with the workpiece holder using
22 a vacuum.

1 31. The method according to claim 27 further comprising
2 coupling a calibration workpiece and a production workpiece with the
3 workpiece holder.

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5 32. The method according to claim 27 further comprising
6 receiving an electronic device workpiece within the workpiece holder.

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8 33. The method according to claim 27 further comprising
9 communicating the signal intermediate the workpiece holder and an
10 electronic device workpiece using an intermediate member.

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12 34. The method according to claim 27 further comprising
13 receiving the signal within the workpiece holder from an electronic
14 device workpiece.

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16 35. The method according to claim 27 wherein the providing
17 comprises providing a chuck.

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19 36. The method according to claim 27 further comprising:
20 sensing a process condition of an electronic device workpiece; and
21 generating the signal responsive to the sensing.

1 37. The method according to claim 36 wherein the sensing
2 comprises sensing temperature at a plurality of positions upon a surface
3 of the electronic device workpiece.

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5 38. A method of communicating signals within an electronic
6 device workpiece processing apparatus, the method comprising:

7 providing a workpiece holder;
8 providing an electronic device workpiece including a sensor;
9 electrically coupling the sensor of the electronic device workpiece
10 with the workpiece holder;
11 sensing a condition using the sensor;
12 generating a signal using the sensor responsive to the sensing; and
13 conducting the signal through the workpiece holder following the
14 coupling.

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16 39. The method according to claim 38 wherein the coupling
17 comprises coupling circuitry of the electronic device workpiece with
18 circuitry of the workpiece holder.

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20 40. The method according to claim 38 further comprising
21 breaking the coupling of the sensor and the workpiece holder.

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23 41. The method according to claim 38 further comprising
24 receiving the electronic device workpiece within the workpiece holder.

1 42. The method according to claim 38 wherein the coupling
2 comprises coupling using an intermediate member.

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4 43. The method according to claim 38 wherein the providing a
5 workpiece holder comprises providing a chuck configured to receive an
6 electronic device workpiece.

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8 44. The method according to claim 38 wherein the sensing
9 comprises sensing temperature.

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11 45. A method of communicating signals within an electronic
12 device workpiece processing apparatus, the method comprising:
13 providing a workpiece holder having circuitry;
14 providing an electronic device workpiece having circuitry; and
15 communicating signals intermediate the circuitry of the electronic
16 device workpiece and the circuitry of the workpiece holder.

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18 46. The method according to claim 45 further comprising
19 coupling the circuitry of the electronic device workpiece with the
20 circuitry of the workpiece holder.

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22 47. The method according to claim 46 wherein the coupling
23 comprises coupling using an intermediate member.

1 48. The method according to claim 46 further comprising
2 breaking the coupling of the circuitry of the electronic device workpiece
3 and the circuitry of the workpiece holder.

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5 49. The method according to claim 45 wherein the providing a
6 workpiece holder comprises providing a chuck configured to receive an
7 electronic device workpiece.

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9 50. The method according to claim 45 further comprising
10 receiving the electronic device workpiece within the workpiece holder.

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12 51. The method according to claim 45 further comprising:
13 sensing a process condition of the electronic device workpiece; and
14 generating the signal responsive to the sensing.

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16 52. The method according to claim 51 wherein the sensing
17 comprises sensing temperature at a plurality of positions upon a surface
18 of the electronic device workpiece.

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